Hazardous Waste Operations and
Emergency Response
(Hazwoper)

Functional Based Elective – Booming Operations

Notes for the Instructor

Most of these scenarios are based on actual incidents that involved USCG units or reflect situations that could reasonably occur. We changed some of the details but the basic scenarios are nearly identical to the actual incidents. We added some details to illustrate some of the hazards Coast Guard personnel will likely face in such incidents.

The PowerPoint slides that go with these scenarios contain instructions for the instructor. They are an abbreviated version of the information in this document. We encourage you to read this document and become familiar with the scenarios before using them in a class. We suggest providing class participants with a copy of the scenario and instructions from this Instructor Guide when you show the associated slide.

We encourage instructors to make these scenarios applicable to their area. To that end, we have left the names of the ports and the vessels blank.

Documents such as DCMs and MSDSs are as close as possible to the actual documents used in the incidents these scenarios are based on. As they say on TV, we changed the names to protect the innocent.

We encourage you to provide feedback to improve these scenarios. If you have suggestions for new scenarios please feel free to submit them.

Please make every effort to keep the focus of discussions on health and safety. Class participants will often want to expound on other subjects or bring up points that are not closely related to this subject matter.

Instructions for Activities

General This module contains two basic scenarios and two slides you can use to amplify on the basic scenarios or make them pertinent to the local area. In addition, they provide some additional factors not addressed in the first two scenarios. We recommend that you choose either Scenario #1 or #2 and conduct the exercise in detail. The slides are all in one file.

Single Person Assign each class participant the tasks listed on the exercise scenario. Instruct them to read the scenario and develop a written list of the information the scenario requests. After an appropriate period of time, ask for a volunteer to read their list. When he/she is done, ask who has any other items to add. Facilitate a discussion of the different lists and/or different priorities. Maintain the focus of all discussions on health and safety issues.

Group Break the class into an appropriate number of groups (we suggest at least three people per group). Assign each group the tasks listed on the exercise scenario. Instruct them to read the scenario and develop a written list of the information the scenario requests. After an appropriate period of time, ask for a group to read their list. When they are done, ask who has any other items to add. Facilitate a discussion of the different lists and/or different priorities. Maintain the focus of all discussions on health and safety issues.

Options Have the participants write their lists on a white board or on flip chart paper to make it easier for the other groups to see during their presentations.

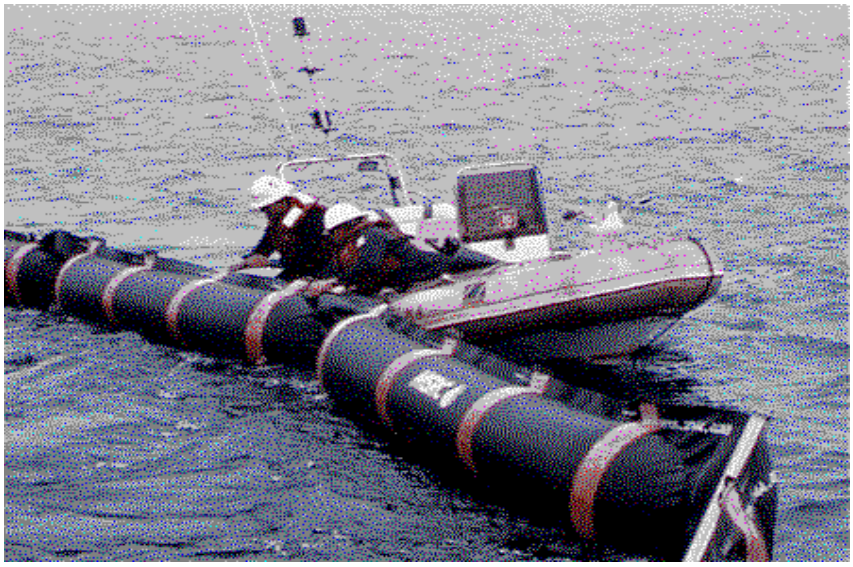
Impose a time limit on each activity. This will add stress to the activity and cause the participants to focus more intently on the task at hand.

Add an element of competition to the activity. If you impose a time limit you can also give an award or prize to the group or person who compiles the biggest list.

Booming Scenario #1 Guide

Situation: A tank vessel aground in Chesapeake Bay. It has a small leak and spilled approximately 20,000 gallons of #6 fuel oil. Product is no longer observed to be leaking. The weather conditions are sunny, 90˚ F, and winds are less than 5 mph out of the SE. On scene conditions are 1-2 foot swells and the water temperature is 68˚ F

Job Function: Handling lines, lifting, connecting, towing and anchoring boom



Assignment: Recognize the hazards present, prioritize (evaluate) those hazards and then recommend some control strategies

Instructions: Provide the training participants with the scenario using the handout or the PowerPoint slides.

Discuss the scenario with them and ensure they have the information necessary to answer the questions.

Provide other information if they request it.

Recognize/Evaluate

Suggestion:. List the hazards to your health and safety and prioritize (evaluate) them - rank from highest to lowest in terms of severity/probability (answers will vary and should generate some discussion).

- Ergonomic Hazards (lifting, pulling, twisting, while deploying equipment) resulting in personnel injuries (ie. lower back);
- Exposure to vapors from product and possible dermal hazards;
- Heat stress or fatigue;
- UV exposure (sun);
- Underway/overboard hazards;
- Abrasion/injuries from working w/ lines and chain under strain;
- Extremities being caught in bites of chain/line;
- Insect/jellyfish.

Control Strategies:

- Ensure personnel have training in deployment of equipment;
- Proper lifting technique (with legs - not with back);
- MSDS for product/awareness of symptoms of exposure;
- Personnel are acclimated to heat/take breaks/stay hydrated;
- Looking out for shipmates - signs of fatigue/ stress;
- Sunscreen/block;
- Awareness of lines and chains on deck, never step or work in the bight of a chain/line. Attempt to place line /chain in areas out of work area. Avoid areas in direct line with chain/line under strain;
- PPE: PFD, hard hat, gloves, coveralls/work uniform;
- Safety belt for persons working over side of vessel;
- Insect repellent / awareness and avoidance of jellyfish

Booming Scenario #2 Guide

Situation: A recreational vessel sank at the dock resulting in a diesel spill of approximately 200 gallons. It is the first part of October, the temperature is 60˚ F and it is partly cloudy and there is little if any wind. The location is a protective harbor and the water temperature is 57˚ F

Job Function*:* Connecting, towing and anchoring boom

Assignment: Recognize the hazards present, prioritize (evaluate) those hazards and then recommend some control strategies

Instructions: Provide the training participants with the scenario using the handout or the PowerPoint slides.

Discuss the scenario with them and ensure they have the information necessary to answer the questions.

Provide other information if they request it.

Recognize/Evaluate

Suggestions. List the hazards to your health and safety and prioritize (evaluate) them - rank from highest to lowest in terms of severity/probability (answers will vary and should generate some discussion).

- Ergonomic Hazards (lifting, pulling, twisting, while deploying equipment) resulting personnel injuries (ie. lower back);
- Overboard concerns;
- Vessel traffic in area;
- Fatigue;
- Abrasion/injuries from working w/ lines and chain under strain;
- Extremities being caught in bites of chain/line;
- Exposure to product vapors/skin and clothing contamination;
- Insect / jellyfish.

Control Strategies

- Ensure personnel have training in deployment of equipment;
- Proper lifting technique (with legs - not with back);
- Looking out for shipmates - signs of fatigue/ stress;
- Depending on extent of vessel traffic, consider safety zone, BNTM, small boat assistance;
- Awareness of lines and chains on deck, never step or work in the bight of a chain/line. Attempt to place line /chain in areas out of work area. Avoid areas in direct line with chain/line under strain;
- PPE: PFD, hard hat, gloves, coveralls/work uniform;
- Safety belt for persons working over pier;
- Insect repellent / awareness and avoidance of jellyfish.

Booming Scenario #3 Guide

Situation: General situation involving the deployment of boom in a wooded area. Recommend adding variables to fit your AOR (ie. temp, location, product, etc)

In this particular case, many of the hazards recognized in Scenarios #1 and #2 are applicable here. However, a primary concern should be snakes, spiders, insects, animals etc. (will depend on the geographic area)

Booming Scenario #4 Guide

Situation: General situation involving the deployment of boom near or under a pier/dock. Recommend adding variables to fit your AOR (ie. temp, location, product, etc)

In this particular case, many of the hazards recognized in Scenarios #1 and #2 are applicable here. However, additional primary concerns should be:

- Confined space hazards and concentrated vapors (should approach as a confined space which involves evaluating extent of entry needed and atmospheric monitoring prior to entry);
- Overhead hazards (limit extent of activity on overhead dock/pier);
- Snakes/spiders/rats (recognition and avoidance of areas).